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## REPORT

# INFORMATION REPORT

CD NO.

DATE DISTR. 16 June 1955

NO. OF PAGES 2

**NO. OF ENCLS.  
(LISTED BELOW)**

25X1

DATE OF INFO.

SUPPLEMENT TO  
REPORT NO.

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Comments

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1. The correct spelling of the location of the Institute is Agudzera.
2. In paragraph 1 the so-called Dragant bonding agent is perhaps gum ~~Tragacanth~~.

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COUNTRY USSR

REPORT

TOPIC Manufacture of Diaphragms at Professor Hertz Institute at Agudzeri

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EVALUATION

PLACE OBTAINED

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DATE OF CONTENT

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DATE OBTAINED

DATE PREPARED 15 April 1955

REFERENCES

PAGES 1 ENCLOSURES (NO. & TYPE)

REMARKS

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1. Pulverized nickel was calendered, then heated in a furnace to a temperature of  $1,000^{\circ}\text{C}$ , and subsequently ground in a ball mill for 8 hours. The powder thus obtained was elutriated through a glass filter at a rate of 1 kg per minute and then mixed with Dragant bonding agent. The powder was subsequently charged into a drying furnace operating at  $60^{\circ}\text{C}$  and sorted through hair sieves. After removal of the residual water content by acetone, the mass was pressed in a 865-ton press. Pressing was followed by the sintering procedure for which  $769^{\circ}\text{C}$  had experimentally been determined as the best temperature. (Experiments had been conducted at  $725^{\circ}$ ,  $760^{\circ}$ ,  $815^{\circ}$ , and  $795^{\circ}\text{C}$ ). The resulting size of pores was 1.16  $\Delta$  (delta gamma).

The following data regarding the diaphragms were stated:

Length	approximately	500 mm
Diameter		12.8 mm
Size of pores		1.16 mm
(permeability to gases)		1.16 delta gamma

2. The output of diaphragms varied greatly. Some times, 35 items were manufactured daily between 0800 and 2300; at other times, the output was considerably lower.
3. Most of the diaphragms manufactured at the Hertz Institute were shipped by plane to Moscow. During the period between November 1948 and early 1949, approximately 60 boxes, each containing 16 diaphragms, were dispatched from the Institute.
4. The diaphragms were embedded into small glass tubes which in turn were padded with loose cotton. Two layers of eight such tubes each were packed into one box. The boxes measured 57.2 x 53.0 x 16.2 centimeters.

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